DOCUMENT RESUME

ED 276 541 RC 015 988

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TITLE Establishing a National Rural Education Research Agenda and Data Base.
PUB DATE 16 Apr 86
NOTE 17p.; Paper presented at the Annual Meeting of the American Educational Research Association (67th, San Francisco, CA, April 16-20, 1986).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Curriculum Development; Databases; Delivery Systems; *Educational Attitudes; Educational Finance; *Educational Research; Elementary Secondary Education; Higher Education; Inservice Teacher Education; *Research Needs; *Rural Education; Rural Urban Differences; School Effectiveness
IDENTIFIERS *Educators; National Rural Education Research Consortium; *Research Priorities

ABSTRACT

In a national effort to derive an empirical data base for establishing rural education research priorities, 273 general educators and 188 special educators representing public schools (180), colleges/universities (137), and other agencies (137) ranked 46 specific research questions clustered around the issues of rural school effectiveness, delivery of services, governance and finance, staff training needs (technology as a resource), personnel recruitment/retention, rural versus nonrural, and quality graduates. When themes were ranked according to general importance to the field, rural school effectiveness, curriculum development needs, and inservice training were ranked highest, while federal and state policies and legal procedure, characteristics of rural/nonrural students, and alternate funding systems were ranked lowest. When themes were ranked by personal research interests, curriculum development ranked first, with no theme changing more than two positions except service delivery, which dropped from sixth to ninth, and personnel recruitment, which went from eighth to fifth. The empirical clusters and topical areas were used to establish a national rural data base which currently contains five data bases: National Rural Education Research Consortium member profiles; members' research skills; members' research interests; conference participants; and profiles of potential research subjects (schools, communities, counties). (NEC)

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ESTABLISHING A NATIONAL RURAL EDUCATION RESEARCH AGENDA AND DATA BASE

Paper presented at the:
American Educational Research Association
Annual Meeting
San Francisco, April 16, 1986

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ESTABLISHING A NATIONAL RURAL EDUCATION RESEARCH AGENDA AND DATA BASE

Introduction

The U.S. Department of Education has become increasingly concerned about the effectiveness of rural schools and has committed resources to improve rural education. One aspect of the Department's efforts has been a search by its Intra-Agency Committee on Rural Education to expand the data base of rural education research and to identify a national rural education research agenda. This is consistent with the Department's official policy established in August of 1983 stating that rural education should receive an equitable share of the information, services, assistance and funds available from and through the Department of Education and its programs (as noted in the August 23, 1983 report of the U.S. Secretary of Education).

Empirical data from which to determine rural education research priorities have been nonexistent for many reasons: (1) The diversity of rural school subcultures; (2) the absence of a consistently applied definition of "rural" among federal agencies, educators, and professional agencies; and (3) the deletion of data for districts enrolling fewer than 300 students by the National Center for Education Statistics until March of 1983.

This paper reports results, implications and follow-up of the first comprehensive national effort to derive an empirical data base for establishing rural education research priorities.

Objectives

The primary objectives of the study were to (a) ascertain research priorities among rural educators, both in special and general education; and (b) determine the variations existing in research priorities associated with regions of the country, positions held, and employing institutions.

Methodology/Data source

The study was conducted by the National Rural Education Research Consortium (NRERC). Thirteen themes of research interest were generated from the 1978-84 work of the National Rural Project (funded by the U.S. Department of Education) and during 1984 meetings of the Consortium. There ranged from teacher training methodologies to addressing rural personnel attrition and shortage areas to local governance issues. Using these themes as a framework, 46 research questions were delineated by a meeting of the Consortium in conjunction with the U.S. Department of Education-sponsored national rural education conference in June of 1984. This meeting involved a geographically representative body of rural practitioners and university faculty, regional resource personnel, and state education agency personnel interested in rural education research.

As questionnaire designers assumed that researchers and practitioners might differ in their degree of interest about specific research questions and the importance of each question to the field, the instrument was designed to force respondents to differentiate between these two areas.

Respondents

Approximately 1,500 questionnaires were mailed to potential respondents (a geographically representative mailing list of rural educators, administrators and researchers), and a total of 461 questionnaires were returned in time for computer analysis. Two hundred and seventy-three of the respondents were general educators and 188 were special educators. Public schools employed 180 of the respondents; colleges and universities, 144; and other agencies (e.g., state education agency, education service unit, and research and development centers), 137. A breakdown of the respondents by type of position and federal region is listed in Table I.

Rankings of Themes

Respondents rank ordered themes twice, first according to personal research interest and then to general importance to the field. The theme rankings were averaged across all respondents. When themes were ranked according to general importance to the field, the theme with the highest ranking (lowest numerical average) was "Rural School Effectiveness". "Curriculum Development Needs" received the second highest ranking, and "Inservice Training" was third. "Federal and State Policies and Legal Procedures" was the lowest ranked theme, joined by "Characteristics of Rural and Nonrural School Students" and "Alternate Funding Systems" in the bottom three.

When the relative positions of the themes were ranked according to personal research interest, "Curriculum Development" received the highest average ranking. No theme changed more than two positions except "Service Delivery Models", which dropped from sixth to ninth, and "Personal Recruitment and Retention", which went from eighth to fifth. The themes and the mean of their rankings are presented in Table II.

Ratings of Research Questions

Respondents also rated 46 research questions twice using a five-point scale ranging from "unimportant" to "critically important". A hierarchial cluster analysis was used to form meaningful and homogeneous empirical item-groups. Ratings of the questions according to personal interest were analyzed separately from the general importance to the field research questions. An eight- and a nine-cluster solution respectively were derived from these analyses. These clusters were then ranked according to the mean of the mean ratings for the items within the clusters.

When the ratings of topics according to general interest were examined, the top-rated cluster of questions contained items which centered around rural school effectiveness. Other high-rating clusters centered on "governance and finance", "staff training needs; technology as a resource", and "teaching styles and incentives". Low-rated clusters were items centering on "school-community interaction", "personnel recruitment and retention", and "characteristics of rural vs. nonrural students". The general importance clusters, the items within them, and the mean ratings are presented in Table III.

The clustering of topics was somewhat different when the ratings according to personal interest were considered, but the top-rated cluster again consisted of items which centered around the school effectiveness theme. "Delivery of services" and "rural preservice practica issues" were also high-rated clusters. Mean ratings of items according to personal interest were generally lower than than those rated for importance of research to the field. Table IV lists the items within each of the clusters rated according to personal research interest.

Differences Among Respondents

To determine the differences among respondents, chi-square analysis was used to compare rankings of themes, and analysis of variance to compare mean ratings of items in a cluster, using $p < .05$ for both methods as a criterion. In comparing the responses of rural special educators and general rural educators, differences existed on six of the twenty-six rankings of themes and nine of the seventeen cluster ratings. For instance, rural school effectiveness was more important to the general educators, as was personal interest in advanced technologies. Table V indicates the significant differences between these two groups of respondents.

While differences on some themes and questions between federal regions were found, these were infrequent. Out of 26 rankings of themes and 92 ratings of questions, only 14 showed "significant" differences among regions.

The number of significant differences increased slightly to 22 out of a total of 118 when rankings and ratings were associated with institutional affiliation. Of these 22, 19 had to do with personal interest; only three referred to general importance to the field. As noted, very few significant differences existed. In fact, a key strength of the entire analysis is the homogeneity of responses and research prioritizations.

All raw data (completed questionnaires and computer printouts) are available in the Consortium headquarters and may be reviewed by interested parties.

Educational Importance

The empirical clusters and topical areas within each cluster have been used to establish a national rural education data base which currently contains the following five data banks, with other data banks under development.

1. A member profile data bank containing an abbreviated vita of all NRERC members.
2. A research skills' data bank listing members' skills which they are willing to offer to a research project.
3. A research interest data bank which links members with similar interests. The categories used to link the members were those established in the above study.
4. A conference data bank containing lists of members who usually attend particular national conferences to facilitate "piggy back" meetings.

5. A subject pool data bank containing profiles of schools, communities and counties of potential research subjects and indexes by grade level and various categories, e.g., ethnic minorities and family income. This bank was established to assist researchers in obtaining geographic generalizability in their research projects or to obtain a needed population for their research.

The third edition of the NRERC Data Banks Manual has just been completed. These data banks have been used extensively by Consortium members and other interested parties. They may be accessed by calling, writing or dialing an electronic bulletin board.

Consortium members were asked to submit additional research questions which they deemed the most crucial areas needing further research. Over 1000 questions were submitted. A panel of judges changed the questions into research hypotheses and reviewed them for research importance, wording, placement of item, etc. A consensus of opinion from these judges enabled the Consortium staff to finalize five instruments, which are being sent to rural administrators, general educators, special educators, teacher trainers, and parents. The purpose of this study is to identify and prioritize actual (operational) research questions within each of the identified groups.

These five instruments will then be combined and the highest rated items included in one instrument to obtain comparative data. These studies will assist Consortium interest groups in establishing research projects, the Federal government in funding rural education research, and individual researchers in selecting research projects.

TABLE I

Number of Respondents According to Type of Position and Special or General Education Orientation

	Special Educators	General Educators	Total Respondents
Public School Administrators	50	115	165
College or University Administrators	17	29	46
Public School Teachers	11	4	15
College or University Faculty	37	61	98
State Department of Education Officials	21	9	30
Independent Educational Unit Members	20	24	44
Other or Unidentified Position	32	31	63
	188	273	461

Number of Respondents According to Federal Region and Special or General Education Orientation

Federal Region	Special Educators	General Educators	Total Respondents
1	19	13	32
2	7	16	23
3	18	20	38
4	24	13	37
5	24	42	68
6	12	27	39
7	18	29	47
8	18	30	48
9	12	14	26
10	31	63	94
	183	267	*450

*The total numbers of "general educators," "special educators," and "total respondents" differ in the two tables above because 11 respondents were from Canada. Thus, no "federal region" was indicated for these respondents.

TABLE II

Themes for a National Rural Education Research Agenda
Rank According to Means

Importance of Research for Improving Rural Education		Personal Research Interest		Themes
Rank	Means	Rank	Means	
1	5.12	3	5.62	*Rural School Effectiveness
2	5.43	1	5.14	*Curriculum Development Needs & Issues
3	5.84	2	5.26	*Inservice Training
4	6.30	5	6.07	*Preservice Teacher Training
5	6.36	8	7.02	*Personnel Recruitment and Retention
6	6.40	4	5.99	*Service Delivery Model
7	7.33	9	7.21	*Use of Advanced Technology
8	7.35	10	8.16	*Rural Education Cost Effectiveness
9	7.35	7	6.86	*School-Community Interaction and Partnerships
10	8.01	6	6.70	*Teaching and Leadership Styles
11	8.15	12	8.78	*Alternate Funding System
12	8.53	11	8.28	*Characteristics of Rural and Non-Rural School Students
13	9.07	13	9.31	*Federal and State Policies and Legal Procedures

TABLE III

QUESTIONS (IMPORTANCE OF RESEARCH) RELATED TO EACH CLUSTER

Cluster I. Rural School Effectiveness (3.78)

Questions:

12. What educational procedures and curricula work are accepted in very small schools (under 300 ADA)?

20. How can we best measure the effectiveness of rural schools?

21. What makes a rural school effective? How does this differ from criteria that make non-rural schools effective?

22. What are qualitative and quantitative measures of effective school leadership in rural America? How are these different from those of non-rural settings?

23. What are characteristics of effective collaboration?

Cluster II: Governance and Finance (3.56)

Questions:

28. What are effective alternate financing systems for rural schools?

29. How do appropriate legal procedures differ for rural versus non-rural schools.?

38. What are the effects of various service delivery systems for special education?

39. What are the differences in state policies for rural and non-rural environments?

40. What impact do federal and state mandates have on rural school funding?

41. How does one determine cost-effective factors of rural service delivery? What are some of these factors?

Cluster III: Staff Training Needs; Technology as a Resource (3.52)

Questions:

1. What kinds of supervision, practicum facilities and observation strategies are cost effective in various types of rural areas (e.g., remote areas versus small clustered towns, etc.)?

5. How can rural factors such as low incidences of handicaps, transportation problems, and other elements be resolved through the use of new educational technology?

6. Since little actual in-depth psychological testing is done in rural areas, what kinds of programs and tests should be developed and available for use by rural educational staff?

4. What is the need for generalists to meet rural educational needs to serve a range of ages?

Table III .
Questions(Importance of Research) Related to Each Cluster,cont'd

Cluster IV: Teaching Styles and Incentives (3.50)
Questions:
34. What are effective ways of serving rural gifted students? How does one identify gifted rural students who are culturally disadvantaged?

42. What are differences in teaching styles and effectiveness of rural teachers who come to the job from out of the state/ region?

43. What are the incentives of pay for rural teachers and administrators? Should any rural pay incentives be developed (e.g., in the very smallest districts)?

44. What are incentives for the development of innovative rural school programs?

45. How does the use of other governmental units (rather than LEA or local school districts) effect efficiency? How do they effect school direction?

Cluster V: Field-Based Personnel Preparation (3.39)
Questions:
11. How can LEAs, regional service centers, and other organizations assist in rural practica and practica supervision?

16. When should videotape, laser discs, or other technologies be used in place of field-based experience in rural preservice preparation?

17. What is the cost effectiveness of using different techniques (given equivalent outcomes in rural preservice preparation)?

Cluster VI: Preservice Preparation (ethical issues, curriculum, methods, logistics) (3.34)
Questions:
2. How can preservice students be prepared to work with ethnic minority, bilingual, migrant, and other populations in rural areas?

3. What curricula are currently offered at different levels of personnel preparation for rural school systems including BA, MA, Ph.D.?

13. Should personnel preparation programs prepare quality graduates from less than superior students?

14. What are the differences in the length and type of training required to reform quality graduates out of less than superior students?

15. What technical and human skills and knowledge should be included in a rural training program?

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Cluster VI, cont'd

Questions: 18. How can training programs balance the need to provide "state of the art" quality role models, practicum experience, etc., with the need to expose students to the realitites of rural schools?

19. How can logistical problems (e.g., travel costs, housing, etc.) of supervising rural remote preservice practica best be addressed?

Cluster VII: Personnel Recruitment and Retention (3.26)

Questions: 7. What are the best procedures to recruit and retain rural special education staff? Regular education staff?

8. What kinds of procedures used by business and other non-government and government agencies (e.g., Peace Corps) for training, recruiting, and retaining personnel could be used in rural preservice preparation?

9. What specific education roles need to be filled in distinct geographic areas? (Are certain handicapping conditions more prevalent in one area or another?

Cluster VIII: School-Community Interaction (3.26)

Questions: 10. For what roles should local rural citizens/teachers be recruited? What roles should be filled by outsiders?

24. How can we secure greater community involvement in rural school systems?

Cluster IX: Rural vs. Non-Rural (3.13)

Questions: 25. How do local school objectives and expectations differ from community and student expectations of rural areas?

26. In what ways are the concerns in #25 different from those of non-rural areas?

27. What are differences in attitudes and self-concepts or rural versus non-rural students?

30. What non-schooling influences are significant for rural schools?

31. What differences does school board composition pose for effective rural school functioning?

32. What aspects of rural teacher education should come from psychology or anthropological science?

33. What cross-cultural skills are needed to effectively function in rural schools?

35. What are differences in rural adult learning (younger and mature populations)?

Cluster IX, cont'd

Questions:

36. What differences, if any, are there in the education of students who leave and those who remain in the rural community? What type of person leaves and what type of person remains?

37. What are the effects of participation in extracurricular activities in rural communities?

46. What are impacts of local rural culture on learning and behaving?

TABLE IV

QUESTIONS IN EACH CLUSTER
(REGARDING PERSONAL RESEARCH INTEREST)

I. **Rural School Effectiveness**
Cluster Mean: 3.43

Question	Mean
12	2.97
15	3.50
20	3.74
21	3.70
22	3.48
23	3.19

II. **Delivery of Services**
Cluster Mean: 3.13

Question	Mean
4	3.12
6	2.87
38	3.40

III. **Rural Preservice Practica Issues**
Cluster Mean: 3.11

Question	Mean
5	3.51
11	3.25
16	2.87
17	2.91
18	3.24
19	2.86

IV. **Governance and Finance**
Cluster Mean: 2.96

Question	Mean
28	3.11
29	2.38
31	2.81
39	2.81
40	3.24
41	3.13
43	3.02
44	3.40
45	2.70

Table IV
Questions in Each Cluster, Cont'd

V. Preservice Preparation
Cluster Mean: 2.92

Question	Mean
1	3.01
2	2.91
3	2.83

VI. Rural vs. Non-Rural
Cluster Mean: 2.87

Question	Mean
24	3.19
25	2.91
26	2.50
27	2.99
30	2.99
32	2.32
33	2.71
34	3.30
35	2.54
36	2.83
37	2.77
42	2.87
46	3.33

VII. Personnel Recruitment and Retention
Cluster Mean: 2.75

Question	Mean
7	3.22
8	2.64
9	2.58
10	2.57

VIII. Quality Graduates
Cluster Mean: 2.67

Question	Mean
13	2.71
14	2.62

TABLE V

Themes on Which Special and General Educators Differed

Special and general educators tended to agree on the themes, both according to personal interest and according to general importance, with the following exceptions.

Rural School Effectiveness--Personal Interest

	High 1	2	3	4	5	6	7	8	9	10	11	12	Low 13
General Education	49	22	25	21	27	17	20	25	15	8	9	8	3
Special Education	27	11	12	14	13	13	12	7	16	19	12	11	5

$\chi^2 = 26.27$ $p = .0098$

Advanced Technologies--Personal Interest

	High 1	2	3	4	5	6	7	8	9	10	11	12	Low 13
General Education	18	29	20	20	23	22	13	13	20	15	23	9	19
Special Education	5	14	11	8	16	15	14	8	17	19	7	18	19

$\chi^2 = 25.70$ $p = .0186$

Service Delivery Models--Personal Interest

	High 1	2	3	4	5	6	7	8	9	10	11	12	Low 13
General Education	26	18	23	24	22	13	18	17	14	16	8	22	26
Special Education	31	25	24	14	14	11	8	14	4	9	9	4	6

$\chi^2 = 30.76$ $p = .0021$

Preservice Teacher Training--General Importance

	High 1	2	3	4	5	6	7	8	9	10	11	12	Low 13
General Education	22	20	28	21	22	19	21	17	25	22	15	23	5
Special Education	23	27	13	18	12	13	10	14	13	15	9	4	12

$\chi^2 = 26.68$ $p = .014$

Alternate Funding Systems--General Importance

	High 1	2	3	4	5	6	7	8	9	10	11	12	Low 13
General Education	14	11	14	11	20	12	23	23	22	29	28	27	9
Special Education	13	17	7	7	11	18	8	9	21	11	25	26	9

$\chi^2 = 29.06$ $p = .016$

Table V (Cont.)
Curriculum Development Needs & Issues--General Importance

	High 1	2	3	4	5	6	7	8	9	10	11	12	Low 13
General Education	33	40	22	38	32	26	15	11	10	9	11	7	6
Special Education	12	18	21	17	20	16	17	20	9	10	13	6	4

$\chi^2 = 22.11$ $p = .036$

Clusters Showing Significance Difference Between Special and Other Educators

Personal Interest Clusters	Mean of Responses to Items in Cluster		N	F	P
	Gen Ed	Spec.Ed			
I	3.51	3.28	410	6.60	.01
III	3.04	3.28	417	9.19	.003
VI	2.73	2.94	411	5.63	.02
IX	2.87	2.71	415	4.16	.04
Importance to the Field Clusters					
I Rural School Effectiveness	3.85	3.70	438	5.30	.02
II Governance/ Finance	3.50	3.64	441	4.48	.03
III Training/ Technology	3.45	3.61	440	6.34	.01
VII Recruitment & Retention	3.17	3.37	438	6.91	.009
IX Rural vs.Non-Rural	3.20	3.04	441	6.92	.009